

## CLAIMS

What is Claimed is:

- 1        1. A method for removing organolead compounds from aqueous organolead  
2            compositions, comprising:  
3                providing an aqueous compositions including organolead compounds;  
4                ozonating said organolead compositions with ozone, wherein said organolead  
5            compounds are oxidized producing insoluble lead oxide polymers;  
6                contacting said aqueous compositions including insoluble lead oxide  
7            polymers through activated carbon to remove said insoluble lead oxide polymers;  
8                filtering said aqueous compositions including lead oxide polymers through at  
9            least one filtering means to remove said insoluble lead oxide polymers; and  
10               recovering said aqueous compositions substantially free of organolead.
  
- 1        2. The method according to claim 1, wherein said organolead compounds comprises at  
2            least one of tetra alkyl lead, tetraethyl lead, tetra methyl lead, ethyltrimethyl lead,  
3            diethyldimethyl lead, and any ethyl or methyl lead compounds thereof.
  
- 1        3. The method according to claim 1, wherein said organolead compounds being  
2            organohalogenated lead comprising at least one of alkyl lead chlorides including  
3            ethyl lead trichloride, diethyl lead chloride, triethyl lead chloride, methyl lead  
4            trichloride, dimethyl lead chloride, trimethyl lead chloride, and mixture of  
5            transalkylation products thereof.

- 1        4. The method according to claim 1, wherein contacting said aqueous composition  
2            through activated carbon substantially removes other unwanted contaminants and/or  
3            impurities.
- 1        5. The method according to claim 1, wherein said filtering means include filters range  
2            in porosity from about 1 $\mu$ m to about 0.5 $\mu$ .
- 1        6. The method according to claim 1, wherein said ozone is produced by chemical or  
2            electrical generation.
- 1        7. The method according to claim 6, wherein said ozone is produced by an ozone  
2            generator.
- 1        8. The method according to claim 1, wherein said ozonating said aqueous organolead  
2            compositions with ozone for at least about 25 seconds.
- 1        9. The method according to claim 1, wherein said organolead compounds are reduced  
2            from up to about 99%.
- 1        10. The method according to claim 1, wherein said aqueous organolead composition  
2            was exposing to at least about 0.001 moles of ozone during said ozonating process.

1 11. A method for removing organolead compounds from non-aqueous compositions

2 including organolead fuel compositions, comprising:

3 providing fuel compositions including organolead compounds;

4 ozonating said organolead fuel compositions with ozone, wherein said  
5 organolead compounds are oxidized producing insoluble lead oxide polymers;

6 contacting said organolead fuel compositions including insoluble lead oxide  
7 polymers through activated carbon to remove said insoluble lead oxide polymers;

8 filtering said fuel compositions including lead oxide polymers through at least  
9 one filtering means to remove said insoluble lead oxide polymers; and

10 recovering said fuel compositions substantially free of organolead.

1 12. The method according to claim 11, wherein said organolead compounds comprises

2 at least one of tetra alkyl lead, tetraethyl lead, tetra methyl lead, ethyltrimethyl lead,  
3 diethyldimethyl lead, and any ethyl or methyl lead compounds thereof.

1 13. The method according to claim 11, wherein said organolead compounds being

2 organohalogenated lead comprising at least one of alkyl lead chlorides including  
3 ethyl lead trichloride, diethyl lead chloride, triethyl lead chloride, methyl lead  
4 trichloride, dimethyl lead chloride, trimethyl lead chloride, and mixture of  
5 transalkylation products thereof.

1 14. The method according to claim 11, wherein said contacting said fuel composition  
2 through activated carbon substantially removes other unwanted contaminants and/or  
3 impurities.

1 15. The method according to claim 11, wherein said filtering means include filters  
2 ranging in porosity from about 1 $\mu$ m to about 0.5 $\mu$ .

1 16. The method according to claim 11, wherein said ozone is produced by chemical or  
2 electrical generation.

1 17. The method according to claim 16, wherein said ozone is produced by an ozone  
2 generator.

1 18. The method according to claim 11, wherein said ozonating said organolead fuel  
2 compositions with ozone for at least about 25 seconds.

1 19. The method according to claim 11, wherein said organolead compounds are reduced  
2 from up to about 99%.

1 20. The method according to claim 11, wherein said organolead fuel composition was  
2 exposed to at least about 0.001 moles of ozone during the ozonating process.